or opened up with forceps at its lowest part in front, and a large hole being made, a finger inserted can explore the heart over its whole extent back and front, nearly as far as its extreme base. During the operation the peritoneum may be exposed as it sweeps downward from the under surface of the diaphragm. It is, of course, not injured, but is pushed aside as is done in performing a suprapubic cystotomy. The superior epigastric artery is not wounded, but can be kept well inside, toward the middle line, on separating the tissues after cutting through the attachment of the abdominal muscles to the seventh cartilage.''

They claim the following advantages for this method: "1. The pleural cavity cannot be injured, as it is far away in the normal arrangement of the organs, and would be still further removed in pericardial distention. It would seem, indeed, that the method described is the only sure way of entering the pericardium without wounding the pleura, for the latter frequently covers the fifth and sixth intercostal spaces, even up to the sternum. 2. Drainage is from the most dependent portion of the sac, when the patient is half propped up, and is through a large opening not bounded by cartilage or sternum. 3. Great ease is afforded for the exploration and cleansing of the heart, both back and front, to its extreme limits."

PEDIATRICS.

UNDER THE CHARGE OF

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Tetanus Successfully Treated with Antitetanic Serum.—HIBBERT (*New England Medical Monthly*, November, 1899, p. 427) reports a successful case. The patient was a boy, aged twelve years, whose feet were scratched by a wire fence. Five days later he complained of stiffness in the muscles of the neck and jaw, and on the following day was unable to open his mouth wide enough to permit the insertion of the little finger. There were sharp, shooting pains which extended from his legs upward to the back of the neck. He was very nervous and sleepless, and had a temperature of 100.5°, the pulse being 110. He was first seen on the sixth day after injury, and ten-grain doses of chloral were given. On the seventh day the symptoms were more aggravated. Ten c.c. of serum were given, and a second dose twelve hours later. A third dose of the same quantity was given after twenty-four hours.

Great improvement was observed the following day, and steadily continued, so that in six days all rigidity of the muscles had disappeared, and substantial nourishment was taken. The only alarming symptom during the period of convalescence was a very irregular and frequent pulse, which was readily controlled by appropriate treatment, and in a few days more recovery was complete.

A Note upon Kernig's Sign in Infants.—FREDERICK A. PACKARD (*Archives of Pediatrics*, April, 1900, p. 259) reports three cases of verified meningitis in infants, two of whom were aged sixteen months and one four months, in which Kernig's sign was not present during life. He believes the sign to be of value in the diagnosis of meningitis in the adult and in older children, but is disposed to attach little importance to its absence in cases of distinct meningitic symptoms in infants. His observations so far have not permitted him to determine at what age the sign becomes more significant.

[We can confirm Dr. Packard's observation of the frequent absence of this sign in cerebral meningitis occurring in infants under two years of age. —ED.]

The Role of the Calcium Salts in the Pathogenesis of Rhachitis.—Recent researches having shown that rhachitis cannot be attributed either to an insufficiency of the salts of lime in the food, or to an inadequate absorption of these salts because of too rapid elimination by the rhachitic, STOELTZNER (*Jahrbuch f. Kinderheilkunde*, Band I., S. 268) has undertaken to repeat the experiments of Brubacher, and has made a study of the body of a non-rhachitic infant and of four rhachitic infants to ascertain the proportion of the lime salts in the fresh tissues of the brain, lungs, heart, liver, and spleen. These researches have confirmed the conclusions of Brubacher in showing that in the tissues and organic fluids of rhachitic infants the lime salts are found as abundantly as in the non-rhachitic.

It follows, therefore, that the cause of the non-calcification of the osseous tissue of rhachitics should be sought in a particular condition of the bony tissue itself, and not in some peculiarity of the blood plasma with regard to the lime salts.

This conclusion is supported, besides, by the early experiments of the author, who showed that, when young animals are fed upon a diet entirely deprived of the salts of the alkaline earths, osseous lesions are produced which in no respect resemble those of rhachitis. In the former there is an insufficient formation of osseous tissue, while in rhachitis the formation of this tissue is normal, but calcification is deficient.

Lesions of the Kidneys in Congenital Syphilis.—HECKER (*Jahrbuch f. Kinderheilkunde*, 1900, Band i. (n. s.), S. 375) states that the renal manifestations of congenital syphilis have been little studied, and that this is the more surprising since in these organs the diathetic lesions can be better observed than in the liver. He has carefully studied the kidneys of ten dead-born syphilitic infants, and of nine syphilitic nurslings which lived for a short time, none beyond the age of three months. For control the same study was made of twelve dead-born infants, premature or at term, but free of syphilitic taint.

With the nineteen syphilitics the kidneys were affected in every case.

When the infant was prematurely born there was found a small-celled infiltration of the small vessels of the cortex and sometimes of the larger vessels of the medullary substance; almost always there existed at the same time a proliferation of the interstitial connective tissue, and, very often, an endo-periarteritis of the small vessels of the cortex. With the infants born at term the vascular and perivascular infiltration is less marked, but there are more or less distinct evidences of degeneration of epithelium. It is only in the infants that have lived for a time, and especially the nurslings, that parenchymatous lesions appear very distinctly. The epithelium is atrophied and shows fatty degeneration, with signs of desquamation of the cells and secondary dilatation of the urinary tubules, which contain hyaline and granular casts. The Malpighian bodies show evidence of inflammation and destruction, diapedesis of leucocytes into the capsular space, desquamation of the epithelium and proliferation of the capsular endothelium, with atrophy and fatty degeneration of the capillary tufts. The distinction between the renal changes in the syphilitic fœtus and those in the nursling, as just described, is not always clearly marked, and intermediate types are frequent in both groups. The difference of the processes in the two groups is still further marked by another sign. The proliferating nephritis of the fœtus produces an increase of weight of the kidneys (one eighty-sixth of the total weight of the body as compared with one one-hundred and twenty-third in the normal fœtus), while in the atrophic nephritis of the syphilitic nursling the kidneys are diminished in weight, being one one-hundredth of the body weight as compared with one ninety-fourth in the normal infant.

Clinically, syphilitic nephritis of the nursling produces appreciable symptoms. Of the twelve cases studied, albumin was present in ten, often in notable quantity, with casts in great numbers.

Diphtheria of the Vulva.—E. E. Ware (*Lancet*, 1900, i. p. 392) reports an unusual case observed in a well-nourished girl, aged four years. For five days prior to admission to the hospital she had suffered great pain on passing urine, the act sometimes taking a quarter of an hour because of frequent involuntary stoppages. She had lost appetite and had been listless. Temperature was 100° F., the pulse 120, and respiration 28. The vulva was seen to be unduly red and was very sensitive. The urine was acid, specific gravity 1015, and contained no albumin, pus, nor blood. Pain during micturition was very severe, but did not continue after the act.

Three days later careful exploration of the bladder with the sound and through the rectum yielded only negative results, but it was noticed that two white patches, about one-eighth of an inch in diameter, were present upon the vulva, one on the vestibule, the other on the right nympha; and these had the appearance of diphtheritic membrane, a conclusion that was promptly confirmed by culture. The throat and eyes were negative. Two thousand units of antitoxin were given, and two days later the membrane had disappeared, the redness of the vulva was less marked, and micturition was accomplished with very little pain. The temperature was 98° F., and the pulse 120.

One week later micturition was quite painless and the vulva was perfectly normal in appearance, but the child was still very listless. Nineteen days after the disappearance of the membrane the temperature rose to 102.8° F., the pulse to 150, and the child vomited. Nasal regurgitation of fluid was now noticed, and persisted, though less markedly, for a week, after which convalescence was uninterrupted.

[The case is interesting not only for the unusual site of the membranous exudate, similar examples of which are occasionally reported, but also for the occurrence of paralytic symptoms in the fauces. According to the usually described progress of diphtheritic paralysis, those parts are first affected which are nearest to the usual seat of the disease (throat or nose), and thence the rest of the muscular system is affected in somewhat regular order. In Dr. Ware's case the fauces seem to have been the only location of paralytic symptoms, the portions of the body nearer to the focus of disease apparently having escaped altogether.—ED.]

Spontaneous Gangrene Consecutive to Pneumonia in a Child.—ZUPPINGER (*Wiener klinische Wochenschrift*, 1899, No. 13, S. 335) reports a case observed in a girl, aged five years, in which the symptoms began, the day after the crisis of a frank pneumonia, with severe pain in the right great toe. Two days later the whole foot became livid, while similar areas appeared on the left foot, the right knee and elbow, and the left shoulder. After a time the lividity faded from the areas on the elbow and the knee, but over the other parts vesicles appeared, followed by gangrene.

Two months later the following lesions were noted: On the back an ulcer of butterfly shape, 10 cm. by 9 cm., covered with healthy granulations. The anterior part of the left foot was completely disorganized, while on the right foot the great toe was gangrenous, with denudation of the head of the first metatarsal bone; the terminal phalanx of the second toe and the second and third phalanges of the third toe were also destroyed. Pulsation was felt in the popliteal artery only upon the left side.

The left foot was removed by a Pirogoff amputation, and upon the right foot the necrosed first metatarsal and the first cuneiform bones were removed. The child made a good recovery.

The author states that this is the first recorded case of post-pneumonic gangrene in a child. In the adult this complication of pneumonia has been reported by Benedikt (gangrene of the foot), by Grimm (gangrene of the fingers), and by Nielsen (gangrene of the fingers and toes).

Chronic Articular Rheumatism in Children.—Three instances of this rare condition in childhood are reported by LACHMANSKI (*Archiv f. Kinderheilkunde*, 1900, Band xxviii., S. 104) in a paper treating of both the acute and the chronic forms of the disease.

The first case was seen in a girl, aged ten years, without hereditary antecedents, the affection beginning as a subacute polyarthritis. For several months there were alternating conditions of improvement and relapse in one or more of the articulations. At the same time there were febrile movements of long duration which accompanied or seemed independent of the articular manifestations. Pain was occasioned by efforts at walking, but was relieved by rest. Despite careful treatment and diet, muscular atrophy, without reaction of degeneration, progressed, and the articular deformity became more pronounced. All the articulations were involved, even those of the vertebræ and the temporomaxillary joint. Nearly all the joints affected became anchylosed, rendering the patient helpless. No visceral lesions could be detected.

In the second case, a boy, aged eight years, there was chronic articular rheumatism of all the members except the left arm. After a period of slight improvement the symptoms became suddenly aggravated. The child remained under observation for only three weeks. The third observation, of which only a few notes are given, was really a case of arthritis deformans in a girl aged eight years. The disease had begun as a chronic polyarthritis.

THERAPEUTICS.

UNDER THE CHARGE OF

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On the Administration of Anæsthetics to Children.—Mr. W. I McCurdie and Dr. C. F. Marshall insist that the administration of anæsthetics, especially chloroform, to children is by no means so free from danger as is generally supposed. The muscular system in children is comparatively feeble, so that rigidity is less marked. Elasticity of the chest is at its maximum, so that artificial respiration can be easily and effectively performed. The bloodvessels are more elastic and their contraction tends to counteract any full pressure. The mucous membranes are more sensitive to irritations, particularly of the respiratory tract and the stomach. Cough and mucous secretion are often easily excited, and vomiting tends to occur more rapidly and with less warning than in the case of adults. The nervous system is more sensitive and reacts more quickly to stimulation; hence there is greater tendency to shock, and recovery from it is more rapid. Reflex action is more marked and also more quickly abolished. This results, in the first place, in increased danger from such reflex effects as spasm of the glottis. In the second place, the early abolition of reflex action results in the disappearance of certain guides which are habitually used in the adult, more especially the corneal and conjunctival reflexes, which in children are usually lost some time before anæsthesia is complete. Nervousness and fear are often strongly manifested. The pulse is not quite so reliable a guide in young children as in adults. In preparation for anæsthesia nothing but digestible foods should be given. Milk is forbidden, because curds may be formed under the influence of fear, which may remain undigested for several hours. Whey, or a good meat broth, is recommended. Since children are so liable to shock, they should be kept warm by various devices during the operation. Anæsthesia must be induced with as little crying and struggling as is possible. The dosage of the anæsthetic should be at first continuous and of gradually